

Invitation to Bid

LSUHSC-SHREVEPORT		LSU Health Sciences Center	BIDS WILL BE PUBLICLY OPENED:	
VENDOR NO. : SOLICITATION : 005535 OPENING DATE : 05/20/2010			May 20,2010	02:00 PM
Rental of Vapotherm		Return Bid in Envelope/Labels Provided to: Purchasing Department PO Box 33932 Shreveport LA 71130		
		BUYER : Britton, Kaye BUYER PHONE : 318/675-5293 DATE ISSUED : 05/07/2010 REQ. NO : 0044718 FISCAL YEAR : 2010		
INSTRUCTIONS TO BIDDERS				
<p>1. READ THE ENTIRE BID, INCLUDING ALL TERMS AND CONDITIONS AND SPECIFICATIONS.</p> <p>2. FILL IN ALL BLANK SPACES.</p> <p>3. ALL BID PRICES MUST BE TYPED OR WRITTEN IN INK. ANY CORRECTIONS, ERASURES OR OTHER FORMS OF ALTERATION TO UNIT PRICES SHOULD BE INITIALIZED BY THE BIDDER.</p> <p>4. BID PRICES SHALL INCLUDE DELIVERY OF ALL ITEMS F.O.B. DESTINATION OR AS OTHERWISE PROVIDED. BIDS CONTAINING "PAYMENT IN ADVANCE" OR "C.O.D." REQUIREMENTS MAY BE REJECTED. PAYMENT IS TO BE MADE WITHIN 30 DAYS AFTER RECEIPT OF PROPERLY EXECUTED INVOICE OR DELIVERY, WHICHEVER IS LATER.</p> <p>5. SPECIFY YOUR PAYMENT TERMS: _____ . CASH DISCOUNTS FOR LESS THAN 30 DAYS OR LESS THAN 1% WILL BE ACCEPTED, BUT WILL NOT BE CONSIDERED IN DETERMINING AWARDS</p>				
<p>BY SIGNING THIS BID, THE BIDDER CERTIFIES:</p> <p>* THAT NEITHER THIS BUSINESS ENTITY NOR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS IS CURRENTLY LISTED AS EXCLUDED OR SANCTIONED BY EITHER THE DEPARTMENT OF HEALTH AND HUMAN SERVICES, OFFICE OF INSPECTOR GENERAL (OIG) OR THE GENERAL SERVICES ADMINISTRATION (GSA).</p> <p>* THAT IF THIS BUSINESS ENTITY OR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS APPEAR ON EITHER LISTING, MY BID WILL BE REJECTED.</p> <p>* THAT IF AT ANY TIME DURING THE TERM OF THE CONTRACT AWARDED AS A RESULT OF THIS INVITATION TO BID, THIS ENTITY OR ANY OF ITS EMPLOYEES OR SUBCONTRACTORS APPEARS ON EITHER LISTING, MY COMPANY WILL NOTIFY THE CONTRACTING AGENCY, AND THE CONTRACT WILL BE TERMINATED. THE CONTRACTING AGENCY WILL NOT BE LIABLE FOR ANY DAMAGES RESULTING FROM SAID TERMINATION.</p>				
<p>THE BIDDER FURTHER CERTIFIES:</p> <p>* COMPLIANCE WITH ALL INSTRUCTIONS TO BIDDERS, TERMS, CONDITIONS, AND SPECIFICATIONS.</p> <p>* THIS BID IS MADE WITHOUT COLLUSION OR FRAUD.</p> <p>* THAT ALL TAXES DULY ASSESSED BY THE STATE OF LOUISIANA AND IT'S SUBDIVISIONS, INCLUDING FRANCHISE TAXES, PRIVILEGE TAXES, SALES TAXES AND ALL OTHER TAXES FOR WHICH THE FIRM IS LIABLE HAVE BEEN PAID.</p> <p>* THAT IF MY BID IS ACCEPTED WITHIN _____ DAYS FROM BID CLOSING TIME, MY FIRM WILL FURNISH ANY OR ALL OF THE ITEMS (OR SECTIONS) AT THE PRICE OPPOSITE EACH ITEM (OR SECTION).</p> <p>* DELIVERY WILL BE MADE WITHIN _____ DAYS AFTER RECEIPT OF ORDER.</p>				
VENDOR PHONE NUMBER:		TITLE	DATE	
FAX NUMBER:				
SIGNATURE OF AUTHORIZED BIDDER (MUST BE SIGNED)		NAME OF BIDDER (TYPED OR PRINTED)		

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STANDARD TERMS & CONDITIONS	Page 2 of 6
NUMBER : 005535 OPEN DATE : 05/20/2010 TIME: 02:00 PM	BIDDER:
<ol style="list-style-type: none"> 6. DESIRED DELIVERY: 10 DAYS ARO, UNLESS SPECIFIED ELSEWHERE 7. TO ASSURE CONSIDERATION, ALL BIDS SHOULD BE SUBMITTED IN THE SPECIAL ENVELOPE, OR USE BID LABEL IF FURNISHED FOR THAT PURPOSE. IN THE EVENT YOUR BID CONTAINS BULKY SUBJECT MATERIAL, THE SPECIAL BID ENVELOPE SHOULD BE FIRMLY AFFIXED TO THE MAILING ENVELOPE. 8. BIDS SUBMITTED ARE SUBJECT TO PROVISIONS OF THE LAWS OF THE STATE OF LOUISIANA INCLUDING BUT NOT LIMITED TO L.R.S. 39:1551-1736; PURCHASING RULES AND REGULATIONS; EXECUTIVE ORDERS; STANDARD TERMS AND CONDITIONS; SPECIAL CONDITIONS; AND SPECIFICATIONS LISTED IN THIS SOLICITATION. 9. IMPORTANT: THIS BID IS TO BE MANUALLY SIGNED IN INK BY A PERSON AUTHORIZED TO BIND THE VENDOR (SEE NO.31). 10. INQUIRIES: ADDRESS ALL INQUIRIES AND CORRESPONDENCE TO THE BUYER AT THE PHONE NUMBER AND ADDRESS SHOWN ABOVE. 11. BID FORMS: ALL WRITTEN BIDS, UNLESS OTHERWISE PROVIDED FOR, SHOULD BE SUBMITTED ON, AND IN ACCORDANCE WITH FORMS PROVIDED, PROPERLY SIGNED (SEE #31). BIDS MUST BE RECEIVED AT THE ADDRESS SPECIFIED IN THE SOLICITATION PRIOR TO BID OPENING TIME IN ORDER TO BE CONSIDERED. 12. STANDARDS OR QUALITY. ANY PRODUCT OR SERVICE BID SHALL CONFORM TO ALL APPLICABLE FEDERAL AND STATE LAWS AND REGULATIONS AND THE SPECIFICATIONS CONTAINED IN THE SOLICITATION. UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION, ANY MANUFACTURER'S NAME, TRADE NAME, BRAND NAME, OR CATALOG NUMBER USED IN THE SPECIFICATION IS FOR THE PURPOSE OF DESCRIBING THE STANDARD OF QUALITY, PERFORMANCE, AND CHARACTERISTICS DESIRED AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION. BIDDER MUST SPECIFY THE BRAND AND MODEL NUMBER OF THE PRODUCT OFFERED IN HIS/HER BID. BIDS NOT SPECIFYING BRAND AND MODEL NUMBER SHALL BE CONSIDERED AS OFFERING THE EXACT PRODUCTS SPECIFIED IN THE SOLICITATION. 13. DESCRIPTIVE INFORMATION. BIDDERS PROPOSING AN EQUIVALENT BRAND OR MODEL SHOULD SUBMIT WITH THE BID, INFORMATION (SUCH AS ILLUSTRATIONS, DESCRIPTIVE LITERATURE, TECHNICAL DATA) SUFFICIENT FOR LSUHSC TO EVALUATE QUALITY, SUITABILITY, AND COMPLIANCE WITH THE SPECIFICATIONS IN THE SOLICITATION. FAILURE TO SUBMIT DESCRIPTIVE INFORMATION MAY CAUSE BID TO BE REJECTED. ANY CHANGE MADE TO A MANUFACTURER'S PUBLISHED SPECIFICATION SUBMITTED FOR A PRODUCT SHALL BE VERIFIABLE BY THE MANUFACTURER. IF ITEM(S) BID DO NOT FULLY COMPLY WITH SPECIFICATIONS (INCLUDING BRAND AND/OR PRODUCT NUMBER), BIDDER MUST STATE IN WHAT RESPECT ITEM(S) DEVIATE. FAILURE TO NOTE EXCEPTIONS ON THE BID FORM WILL NOT RELIEVE THE SUCCESSFUL BIDDER(S) FROM SUPPLYING THE ACTUAL PRODUCTS REQUESTED. 14. BID OPENING. BIDDERS MAY ATTEND THE BID OPENING, BUT NO INFORMATION OR OPINIONS CONCERNING THE ULTIMATE CONTRACT AWARD WILL BE GIVEN AT THE BID OPENING OR DURING THE EVALUATION PROCESS. BIDS MAY BE EXAMINED WITHIN 72 HOURS AFTER BID OPENING. INFORMATION PERTAINING TO COMPLETED FILES MAY BE SECURED BY VISITING LSUHSC DURING NORMAL WORKING HOURS. WRITTEN BID TABULATIONS WILL NOT BE FURNISHED. 15. AWARDS. AWARD WILL BE MADE TO THE LOWEST RESPONSIBLE AND RESPONSIVE BIDDER. LSUHSC RESERVES THE RIGHT TO AWARD ITEMS SEPARATELY, GROUP, OR IN TOTAL, AND TO REJECT ANY OR ALL BIDS AND WAIVE ANY INFORMALITIES. 16. PRICES. UNLESS OTHERWISE SPECIFIED BY LSUHSC IN THE SOLICITATION, BID PRICES MUST BE COMPLETE, INCLUDING TRANSPORTATION PREPAID BY BIDDER TO DESTINATION AND FIRM FOR ACCEPTANCE FOR A MINIMUM OF 30 DAYS. IF ACCEPTED, PRICES MUST BE FIRM FOR THE CONTRACTUAL PERIOD. BIDS OTHER THAN F.O.B. DESTINATION MAY BE REJECTED. PRICES SHOULD BE QUOTED IN THE UNIT (EACH, 	

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<p>BOX, CASE, ETC.) AS SPECIFIED IN THE SOLICITATION.</p> <p>17.DELIVERIES. BIDS MAY BE REJECTED IF THE DELIVERY TIME INDICATED IS LONGER THAN THAT SPECIFIED IN THE SOLICITATION.</p> <p>18.TAXES. VENDOR IS RESPONSIBLE FOR INCLUDING ALL APPLICABLE TAXES IN THE BID PRICE. LSUHSC AGENCIES ARE EXEMPT FROM ALL STATE AND LOCAL SALES AND USE TAXES.</p> <p>19.NEW PRODUCTS. UNLESS SPECIFICALLY CALLED FOR IN THE SOLICITATION, ALL PRODUCTS FOR PURCHASE MUST BE NEW, NEVER PREVIOUSLY USED, AND THE CURRENT MODEL AND/OR PACKAGING. NO REMANUFACTURED, DEMONSTRATOR, USED OR IRREGULAR PRODUCT WILL BE CONSIDERED FOR PURCHASE UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION. THE MANUFACTURER'S STANDARD WARRANTY WILL APPLY UNLESS OTHERWISE SPECIFIED IN THE SOLICITATION.</p> <p>20.CONTRACT CANCELLATION. THE STATE OF LOUISIANA HAS THE RIGHT TO CANCEL ANY CONTRACT, IN ACCORDANCE WITH PURCHASING RULES AND REGULATIONS, FOR CAUSE INCLUDING BUT NOT LIMITED TO THE FOLLOWING: (1) FAILURE TO DELIVER WITHIN THE TIME SPECIFIED IN THE CONTRACT; (2) FAILURE OF THE PRODUCT OR SERVICE TO MEET SPECIFICATIONS, CONFORM TO SAMPLE QUALITY OR TO BE DELIVERED IN GOOD CONDITION; (3) MISREPRESENTATION BY THE CONTRACTOR; (4) FRAUD, COLLUSION CONSPIRACY OR OTHER UNLAWFUL MEANS OF OBTAINING ANY CONTRACT WITH THE STATE; (5) CONFLICT OF CONTRACT PROVISIONS WITH CONSTITUTIONAL OR STATUTORY PROVISIONS OF STATE OR FEDERAL LAW; (6) ANY OTHER BREACH OF CONTRACT.</p> <p>21.DEFAULT OF CONTRACT. FAILURE TO DELIVER WITHIN THE TIME SPECIFIED IN THE BID WILL CONSTITUTE A DEFAULT AND MAY CAUSE CANCELLATION OF THE CONTRACT. WHERE THE UNIVERSITY HAS DETERMINED THE CONTRACTOR TO BE IN DEFAULT, THE UNIVERSITY RESERVES THE RIGHT TO PURCHASE AN OR ALL PRODUCTS OR SERVICES COVERED BY THE CONTRACT ON THE OPEN MARKET AND TO CHARGE THE CONTRACTOR WITH COST IN EXCESS OF THE CONTRACT PRICE. UNTIL SUCH ASSESSED CHARGES HAVE BEEN PAID, NO SUBSEQUENT BID FROM THE DEFAULTING CONTRACTOR WILL BE CONSIDERED.</p> <p>22.ORDER OF PRIORITY. IN THE EVENT THERE IS A CONFLICT BETWEEN THE INSTRUCTIONS TO BIDDERS OR STANDARD CONDITIONS AND THE SPECIAL CONDITIONS, THE SPECIAL CONDITIONS SHALL GOVERN.</p> <p>23.APPLICABLE LAW. ALL CONTRACTS SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAWS OF THE STATE OF LOUISIANA.</p> <p>24.EQUAL OPPORTUNITY. BY SUBMITTING AND SIGNING THIS BID, BIDDER AGREES THAT HE/SHE WILL NOT DISCRIMINATE IN THE RENDERING OF SERVICES TO AND/OR EMPLOYMENT OF INDIVIDUALS BECAUSE OF RACE, COLOR, RELIGION, SEX, AGE, NATIONAL ORIGIN, HANDICAP, DISABILITY, VETERAN STATUS, OR A OTHER NON-MERIT FACTOR.</p> <p>25.SPECIAL ACCOMMODATIONS. ANY "QUALIFIED INDIVIDUAL WITH DISABILITY" AS DEFINED BY THE AMERICANS WITH DISABILITIES ACT WHO HAS SUBMITTED A BID AND DESIRES TO ATTEND THE BID OPENING, MUST NOTIFY THIS OFFICE IN WRITING NOT LATER THAN SEVEN DAYS PRIOR TO THE BID OPENING DATE OF THEIR NEED FOR SPECIAL ACCOMMODATIONS. IF THE REQUEST CANNOT BE REASONABLY PROVIDED, THE INDIVIDUAL WILL BE INFORMED PRIOR TO THE BID OPENING.</p> <p>26.IDEMNITY. CONTRACTOR AGREES, UPON RECEIPT OF WRITTEN NOTICE OF A CLAIM OR ACTION, TO DEFEND THE CLAIM OR ACTION, OR TAKE OTHER APPROPRIATE MEASURE, TO IDEMNIFY, AND HOLD HARMLESS, LSUHSC, ITS OFFICERS, ITS AGENTS AND ITS EMPLOYEES FROM AND AGAINST ALL CLAIMS AND ACTIONS FOR BODILY INJURY, DEATH OR PROPERTY DAMAGES CAUSED BY THE FAULT OF THE CONTRACTOR,</p>	

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<p>OFFICERS, ITS AGENTS, OR ITS EMPLOYEES. CONTRACTOR IS OBLIGATED TO INDEMNIFY ONLY TO THE EXTENT OF THE FAULT OF THE CONTRACTOR, ITS OFFICERS, ITS AGENTS, OR ITS EMPLOYEES. HOWEVER, THE CONTRACTOR SHALL HAVE NO OBLIGATION AS SET FORTH ABOVE WITH RESPECT TO ANY CLAIM OR ACTION FROM BODILY INJURY, DEATH OR PROPERTY DAMAGES ARISING OUT OF THE FAULT OF THE UNIVERSITY, ITS OFFICERS, ITS AGENTS OR ITS EMPLOYEES.</p> <p>27. INTERPRETATION OF DOCUMENT: ANY INTERPRETATION OF THE BID OR QUOTATION DOCUMENT WILL ONLY BE MADE BY AN ADDENDUM ISSUED IN WRITING BY THE PURCHASING DEPARTMENT. SUCH ADDENDUM WILL BE MAILED OR DELIVERED TO EACH PERSON RECEIVING A SET OF THE ORIGINAL BID OR QUOTATION DOCUMENTS. LSUHSC WILL NOT BE RESPONSIBLE FOR ANY OTHER EXPLANATION OR INTERPRETATION OF THE DOCUMENTS.</p> <p>28. ACCEPTANCE OF BID: ONLY THE ISSUANCE OF A PURCHASE ORDER OR A SIGNED CONTRACT CONSTITUTES ACCEPTANCE ON THE PART OF LSUHSC.</p> <p>29. ADHERENCE TO JCAHO STANDARDS: WHERE APPLICABLE, LSUHSC IS ACCREDITED BY THE JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS AND AS SUCH ALL CONTRACTORS, SUBCONTRACTORS, AND VENDORS AGREE TO ADHERE TO THE APPLICABLE STANDARDS PROMULGATED BY THE COMMISSION.</p> <p>30. PREFERENCE: IN ACCORDANCE WITH LOUISIANA REVISED STATUTES 39:1595, A PREFERENCE MAY BE ALLOWED FOR PRODUCTS MANUFACTURED, PRODUCED, GROWN, OR ASSEMBLED IN LOUISIANA OF EQUAL QUALITY. DO YOU CLAIM THIS PREFERENCE? YES _____ NO _____ SPECIFY THE LINE NUMBER (S) _____ SPECIFY LOCATION WITHIN LOUISIANA WHERE THIS PRODUCT IS MANUFACTURED, PRODUCED, GROWN OR ASSEMBLED _____ (NOTE: IF MORE SPACE IS REQUIRED, INCLUDE ON SEPARATE SHEET.) DO YOU HAVE A LOUISIANA BUSINESS WORK FORCE? YES _____ NO _____ IF SO, DO YOU CERTIFY THAT AT LEAST FIFTY PERCENT (50%) OF YOUR LOUISIANA WORKFORCE IS COMPRISED OF LOUISIANA RESIDENTS? YES _____ NO _____ FAILURE TO SPECIFY ABOVE INFORMATION MAY CAUSE ELIMINATION FROM PREFERENCES. PREFERENCES SHALL NOT APPLY TO SERVICE CONTRACTS.</p> <p>31. SIGNATURE AUTHORITY. IN ACCORDANCE WITH L.R.S. 39:1594 (ACT 121), THE PERSON SIGNING THE BID MUST BE:</p> <p>31.1. A CURRENT CORPORATE OFFICER, PARTNERSHIP MEMBER OR OTHER INDIVIDUAL SPECIFICALLY AUTHORIZED TO SUBMIT A BID AS REFLECTED IN THE APPROPRIATE RECORDS ON FILE WITH THE SECRETARY OF STATE; OR</p> <p>31.2. AN INDIVIDUAL AUTHORIZED TO BIND THE VENDOR AS REFLECTED BY AN ACCOMPANYING CORPORATE RESOLUTION, CERTIFICATE OR AFFIDAVIT; OR</p> <p>31.3. AN INDIVIDUAL LISTED ON THE STATE OF LOUISIANA BIDDER'S APPLICATION AS AUTHORIZED TO EXECUTE BIDS. BY SIGNING THE BID, THE BIDDER CERTIFIES COMPLIANCE WITH THE ABOVE.</p>	

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SPECIAL TERMS & CONDITIONS	Page 5 of 6
NUMBER : 005535 OPEN DATE : 05/20/2010 TIME: 02:00 PM	BIDDER:
<p>This bid is to be effective one(1) year from date of award. At the option of the Medical Center and acceptance by the vendor, this bid can be renewed for two (2) additional twelve (12) month periods at the same prices and terms.</p> <p>All prices are to be firm for the contractual period, but wherever there is a general reduction in price which is lower than the contract price, said reduction must be presented directly to the Medical Center.</p> <p>Approximate quantities as set forth are estimated usages only and the successful bidder must supply at bid prices actual requirements as ordered whether the total of such requirements is more or less than the quantities shown. No specific quantities are guaranteed. Only those quantities required will be ordered.</p> <p>This bid shall also cover the needs of the LSUHSC in Monroe, E.A. Conway Hospital if deemed necessary by the University. E.A. Conway estimated quantities are not known, but pricing awarded on this bid shall be effective for products ordered for both LSU Hospital in Shreveport and E.A. Conway Hospital in Mo</p>	

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PRICE SHEET

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NUMBER : 005535

BIDDER:

OPEN DATE : 05/20/2010 TIME: 02:00 PM

UNLESS SPECIFIED ELSEWHERE SHIP TO:

Receiving Department
3010 Linwood Avenue
Shreveport LA 71130

Line No.	Description			Unit Price	Extended Amount
1	<p>Monthly rental of VapoTherm Precision Flow Unit per attached specification</p> <p>Specify brand, model bid(if applicable)</p>	1.00	EA		
2	<p>Monthly rental of VapoTherm Precision Flow unit to include vapoTherm model # PF-UNIT-US with air and oxygen hose and portable stand. (See Attached Specifications)</p> <p>Specify brand, model bid(if applicable)</p>	1.00	EA		

Technical Specifications for High Flow Heat and Humidification Nasal Cannula Device

Product Description:

The high flow heat and humidification nasal cannula device is a nasal cannula system capable of producing a blended oxygen gas at high flow rates while maintaining temperature and humidity content at or near body temperature and humidity levels. Gas flow ranges and nasal cannula interfaces are available in ranges suitable for premature infants through adults. All components of the patient interface and humidity system are single patient use and disposable to decrease the risk of introduction of nosocomial infection.

Features:

- The patient circuit is detachable and disposable: no disinfection necessary
- Minimal downtime between patients: less than five minutes to change disposables
- Built-in oxygen/air blender
- Built-in electronic flowmeters and controllers
- Self-testing and self-calibrating
- Internal battery backup maintains flow and oxygen percentage for at least 15 minutes if AC power is cut off. Battery recharges in 2 hrs.
- All internal sensors self-calibrating and self-monitoring
- Single button starts and stops the device
- Temperature, flow and oxygen percentage are adjusted via a single setting control knob on the front panel
- All values and alarms displayed in a single large color-coded panel
- Flow range 1-40 lpm
- Oxygen percentage is fully adjustable from 21 to 100% when two 40 psi (276 kPa) gas sources are used
- Inlet gas pressure range is 4-70 psi (28-482 kPa)
- Single gas operation- detects inlet gas pressure and blends flow based on demand required and available supply. Supply pressure determines FiO₂ and delivered flow; if demand exceeds supply an alarm sounds
- At low gas inlet pressures, maximum flow rate and oxygen percentage settings are automatically reduced to match the inlet pressure
- Automatically senses cartridge type: maximum flow setting is automatically reduced if low-flow cartridge is installed
- Warm-up time less than five minutes
- Sterile water is connected to the disposable water path using a standard spike
- Universal power requirements allow use anywhere with only a change of power cord
- The disposable patient circuit (DPC) is comprised of the disposable water path (DWP), vapor transfer cartridge (VTC) and delivery tube. Conditions in the circulating water and gas streams are sensed remotely via the interface between the main unit and the disposable water path.

- Vapor transfer cartridge. In the cartridge, blended gas passes through the lumens of hundreds of parallel hollow fibers made of a specially developed polymer. Warm water circulates around the fibers and diffuses as vapor through the fiber material into the gas stream flowing through each fiber. Unlike most humidifiers, there is no direct contact between the water and gas streams.
- The gas stream leaves the cartridge saturated with vapor at the set temperature.
- Patient delivery tube. The warmed humidified gas passes through the center of a triple-lumen heated delivery tube. The center lumen is surrounded by two outer lumens circulating warmed water to maintain the temperature of the inner lumen and to minimize rain-out. A short nasal cannula is connected to the end of the delivery tube and passes the humidified breathing gas to the patient's nares.
- Disposable water path. The disposable water path houses a water reservoir, pump, connections for the cartridge and delivery tube, and sensor interfaces to the main unit. Water is pumped past a heater plate through the outer lumens of the delivery tube. Returning water passes through the outer jacket of the specially designed vapor transfer cartridge where some water is lost as vapor to the gas stream. There is no direct contact between water and gas flows. The water then returns to the pump reservoir. Heater power automatically maintains the set temperature. Water flows into the circuit from the water bag to replace evaporative losses in the vapor transfer cartridge. Air is purged to atmosphere from the circulation via a hydrophobic filter membrane.

Complete System will include:

- Control unit for gas blending, heat-humidity and flow control
- Sturdy rolling stand for mounting unit